

AR Coatings

Purpose:

This document lists some various Anti-Reflective Coating manufacturers that have either been used by Opticon or approved for use by Opticon in the United States.

Suggested Window Properties:

- Material: Clear cell-cast acrylic.
- Spectral Transmission: 85% minimum at 400 - 700 nm.
- Thickness: 0.059 ± 0.005
- Wavefront Distortion (transmission): 0.2 wavelengths peak-to-valley maximum over any 0.08 in. diameter within the clear aperture.
- Clear Aperture: To extend to within 0.04 in. of the edges all around.
- Surface Quality: 60-20 scratch/dig minimum

Window Coatings

- Anti-reflection (A.R.) coatings: Apply these type coatings to achieve the maximum depth of field decoding range and to improve the possible pitch range of acceptable window angles and positions. A.R. coatings also have very poor abrasion and scratch resistance; making only single-side AR coating most practical (the AR coated side of the window typically faces the interior of the imager module).
- Anti-scratch coatings: Apply Polysiloxane type coatings to plastic surfaces to improve the surface resistance to both scratch and abrasion.

The table below lists some exit window manufacturers and anti-reflection coaters:

Company Name	Offers	Notes
Evaporated Coatings, Inc. 2365 Maryland Road Willow Grove, PA 19090 (215) 659-3080	Anti-reflection coater	Acrylic window supplier Anti-reflection coater
Fosta-Tek Optics, Inc. 320 Hamilton Street Leominster, MA 01453 (978) 534-6511	Cell-caster, hard coater, laser cutter	CR39 exit window manufacturer
Optical Polymers Int. (OPI) 110 West Main Street Milford, CT 06460 (203) 882-9093	CR-39 cell-caster, coater, laser cutter	CR39 exit window manufacturer
Polycast 70 Carlisle Place Stamford, CT 06902 (800) 243-9002	Acrylic cell-caster, hard coater, laser cutter	Acrylic exit window manufacturer
TSP 2009 Glen Parkway Batavia, OH 45103 (800) 277-9778	Acrylic cell-caster, coater, laser cutter	Acrylic exit window manufacturer
EMF Corporation 239 Cherry Street Ithaca, NY 14850 800.456.7070	AR520 AR Coating	AR520 is an AR coating designed specifically for plastic substrates.